WHAT IS CLAIMED IS:

1. A pass-by method for simultaneously vapor depositing a uniform thickness thin film of a lubricant on at least one surface of a plurality of substrates, comprising steps of:

(a) providing an in-line vapor deposition apparatus comprising:

(i) a chamber having an interior space maintained at a reduced pressure below atmospheric pressure, said chamber including entrance and exit means at opposite ends thereof;

(ii) at least one linearly extending vapor source means for supplying said interior space of said chamber with at least one linearly extending stream of lubricant vapor;

(iii) a substrate/workpiece mounting/supporting means for mounting/supporting thereon a plurality of substrates/workpieces with the surfaces thereof in facing relation to said at least one linearly extending vapor source means; and

(iv) a transporter/conveyor means for continuously moving said substrate/workpiece mounting/supporting means transversely past said at least one linearly extending stream of lubricant vapor from said at least one linearly extending vapor source means ;

(b) introducing a said substrate/workpiece mounting/supporting means into said chamber via said entrance means, said substrate/workpiece supporting means supporting thereon a plurality of substrates/workpieces with similar thermal histories;

(c) continuously moving said substrate/workpiece mounting/supporting means with said plurality of substrates/workpieces mounted/supported thereon transversely past said at least one linearly extending stream of lubricant vapor from said at least one linearly extending vapor source

means and depositing a uniform thickness thin film of said lubricant on at least one surface of each of said plurality of substrates/workpieces; and

(d) withdrawing said substrate/workpiece mounting/supporting means with said plurality of lubricant thin film-coated substrates/workpieces mounted/supported thereon from said chamber via said exit means.

2. The method as in claim 1, wherein:

step (a) comprises providing an in-line vapor deposition apparatus comprising at least one spaced-apart, opposed pair of said linearly extending vapor sources for supplying said interior space of said chamber with at least one pair of opposingly directed, linearly extending streams of lubricant vapor for depositing a uniform thickness thin film of said lubricant on opposing surfaces of each of said plurality of substrates/workpieces; and said substrate/workpiece mounting/supporting means (iii) and said transporter/conveyor means (iv) are adapted for continuously moving said plurality of substrates/workpieces transversely past said pair of linearly extending vapor sources.

3. The method as in claim 2, wherein:

step (a) comprises providing an in-line vapor deposition apparatus comprising at least one spaced-apart, opposed pair of vertically oriented, linearly extending vapor sources for supplying said interior space of said chamber with at least one pair of opposingly directed, linearly extending, vertically oriented streams of lubricant vapor; and said substrate/workpiece mounting/supporting means (iii) and said transporter/conveyor means (iv) are adapted for continuously moving a vertically oriented plurality of substrates/workpieces past said pair of vertically oriented, linearly extending vapor sources.

4. The method as in claim 3, wherein:

step (b) comprises introducing into said chamber a substrate/workpiece mounting/supporting means mounting/supporting thereon a plurality of disc-

shaped substrates for magnetic or magneto-optical (MO) recording media, each of said plurality of disc-shaped substrates having a pair of opposed major surfaces each with a stack of layers constituting said magnetic or MO media formed thereon, each said layer stack including an outermost, freshly coated carbon-containing protective overcoat layer, wherein step (b) further comprises introducing said plurality of substrates into said chamber such that said freshly coated carbon-containing protective overcoat layer is not exposed to the atmosphere.

5. The method as in claim 1, wherein:

step (a)(ii) comprises providing at least one linearly extending vapor source means for supplying at least one linearly extending stream of a vaporized polymeric fluorine-containing lubricant material.

6. The method as in claim 5, wherein:

step (a)(ii) further comprises providing said at least one vapor source means as including a plurality of reservoirs of liquid polymeric fluorine-containing lubricant material, wherein said liquid polymeric lubricant material comprises a range of molecular weights and said plurality of reservoirs contain different volumes of liquid lubricant material for regulating the molecular weight distribution of said at least one linearly extending stream of lubricant vapor for minimizing variation of the thickness of said thin films of lubricant during an interval in which said method is performed.

7. The method as in claim 1, wherein:

step (a)(ii) comprises providing said at least one vapor source means as fabricated of a high thermal conductivity material and including a plurality of linearly arranged vapor orifices for supplying said at least one linearly extending stream of lubricant vapor.

8. The method as in claim 1, wherein:

step (a)(iii) comprises providing said substrate/workpiece mounting/supporting means in the form of a flat planar pallet including a plurality of spaced-apart openings extending therethrough, each of said openings including means for releasably mounting/supporting therein a flat planar substrate/workpiece.

9. The method as in claim 1, further comprising the step of:

(e) cleaning said substrate/workpiece mounting/supporting means subsequent to performing step (d) and prior to performing step (b) with another plurality of substrates/workpieces supported thereon.

10. The method as in claim 1, wherein:

step (a) further comprises providing said in-line vapor deposition apparatus as part of a continuously operable, in-line apparatus adapted for performing at least one antecedent processing step and/or at least one subsequent processing step on said plurality of substrates/workpieces carried by said substrate/workpiece mounting/supporting means.

11. An apparatus for performing simultaneous pass-by vapor deposition of a uniform thickness thin film of a lubricant on at least one surface of a plurality of substrates, comprising:

(a) chamber means having an interior space adapted to be maintained at a reduced pressure below atmospheric pressure, said chamber means including entrance and exit means at opposite ends thereof;

(b) at least one linearly extending vapor source means for supplying said interior space of said chamber with at least one linearly extending stream of lubricant vapor;

(c) a substrate/workpiece mounting/supporting means adapted for mounting/supporting thereon a plurality of substrates/workpieces with the surfaces thereof in facing relation to said at least one linearly extending vapor

source means, each of said substrates/workpieces having a similar thermal history; and

(d) a transporter/conveyor means for continuously moving said substrate/workpiece mounting/supporting means transversely past said at least one linearly extending stream of lubricant vapor from said at least one linearly extending vapor source means for depositing a uniform thickness thin film of lubricant on the surfaces of each of said plurality of substrates/workpieces facing said at least one linearly extending vapor source means.

12. The apparatus according to claim 11, wherein:

said at least one linearly extending vapor source means (b) comprises at least one spaced-apart, opposed pair of linearly extending vapor sources for supplying said interior space of said chamber (a) with at least one pair of opposingly directed, linearly extending streams of lubricant vapor for depositing a uniform thickness thin film of said lubricant on opposing surfaces of each of said plurality of substrates/workpieces; and

said substrate/workpiece mounting/supporting means (c) and said transporter/conveyor means (d) are adapted for continuously moving said plurality of substrates/workpieces transversely past said linearly extending streams of lubricant vapor from said pair of linearly extending vapor sources.

13. The apparatus according to claim 12, wherein:

said at least one spaced-apart, opposed pair of linearly extending vapor sources are oriented vertically for supplying said interior space of said chamber with at least one pair of opposingly directed, linearly extending, vertically oriented streams of lubricant vapor;

and said substrate/workpiece mounting/supporting means (c) and said transporter/conveyor means (d) are adapted for continuously moving a vertically oriented plurality of disc-shaped substrates/workpieces transversely past said pair of vertically oriented, linearly extending vapor sources.

14. The apparatus according to claim 11, wherein:

said at least one vapor source means (b) comprises a high thermal conductivity material and includes a plurality of linearly arranged vapor orifices for supplying said at least one linearly extending stream of lubricant vapor.

15. The apparatus according to claim 14, wherein:

said at least one vapor source means (b) includes a plurality of reservoirs for containing therein a liquid polymeric lubricant material, wherein said liquid polymeric lubricant material comprises a range of molecular weights and said plurality of reservoirs are adapted to contain different volumes of liquid polymeric lubricant material for regulating the molecular weight distribution of said stream of lubricant vapor for minimizing variation of the thickness of said thin films of lubricant during an interval of operation of said apparatus.

16. The apparatus according to claim 11, wherein:

said substrate/workpiece mounting/supporting means comprises a flat planar pallet including a plurality of spaced-apart openings extending therethrough, each of said openings including means for releasably mounting/supporting therein a flat planar substrate/workpiece.

17. The apparatus according to claim 11, wherein:

said chamber means (a) has a cross-sectional area sufficiently large as to eliminate difference in lubricant vapor pressure along the length of said at least one linearly extending vapor source means (b), whereby said at least one linearly extending vapor source means (b) delivers a uniform flow of lubricant vapor along its length; and

said chamber means (a) includes means for monitoring the rate of vapor effusion from said at least one linearly extending vapor source (b).

18. The apparatus according to claim 11, forming part of a continuously operable, in-line apparatus adapted for performing at least one antecedent processing step and/or at least one subsequent processing step on said plurality of substrates/workpieces carried by said substrate/workpiece mounting/supporting means.

19. The apparatus according to claim 11, further comprising:

(e) cleaning means for cleaning said substrate/workpiece mounting/supporting means (c) subsequent to withdrawal thereof from said chamber means (a) via said exit means and prior to re-introduction to said chamber means (a) via said entrance means.

20. An apparatus for performing simultaneous pass-by vapor deposition of a thin film of a lubricant on at least one surface of each of a plurality of substrates, comprising:

(a) chamber means having an interior space adapted to be maintained at a reduced pressure below atmospheric pressure, said chamber means including entrance and exit means at opposite ends thereof; and

(b) means within said chamber for performing pass-by vapor deposition of a uniform thickness of said thin film of lubricant on at least one surface of each of said plurality of substrates.